

INCH POUND

MIL-DTL-9395/29B

30 May 2001

SUPERSEDING

MIL-S-9395/29A

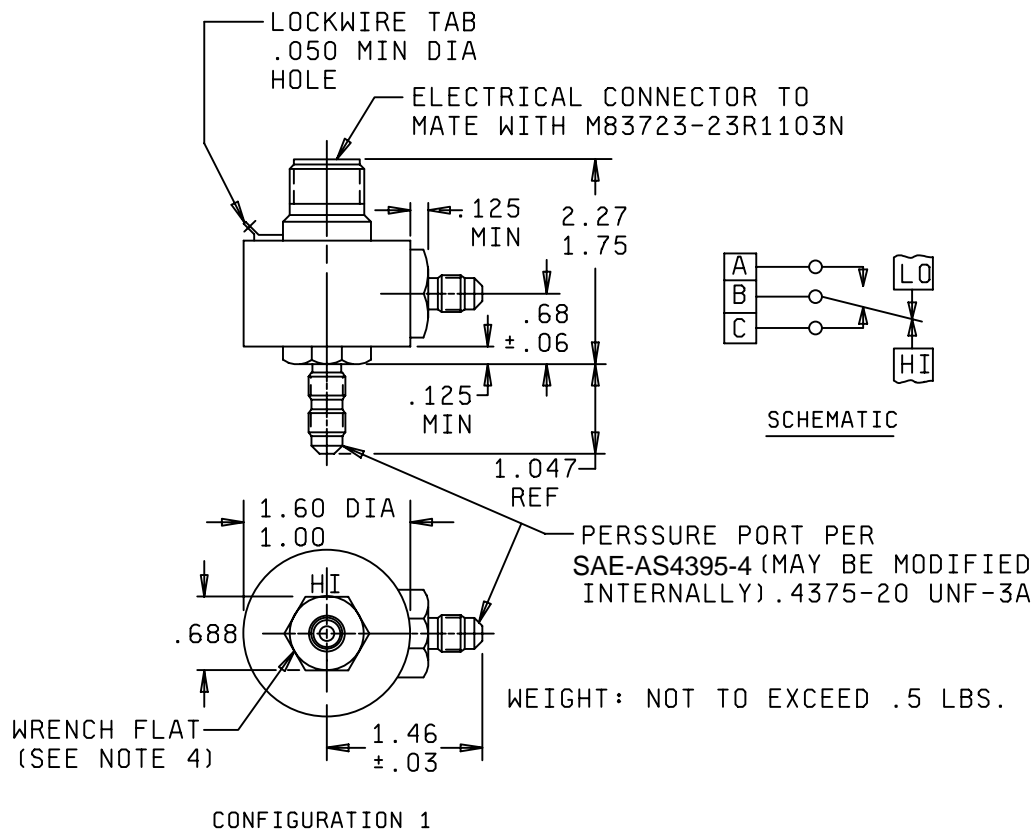
6 October 1975

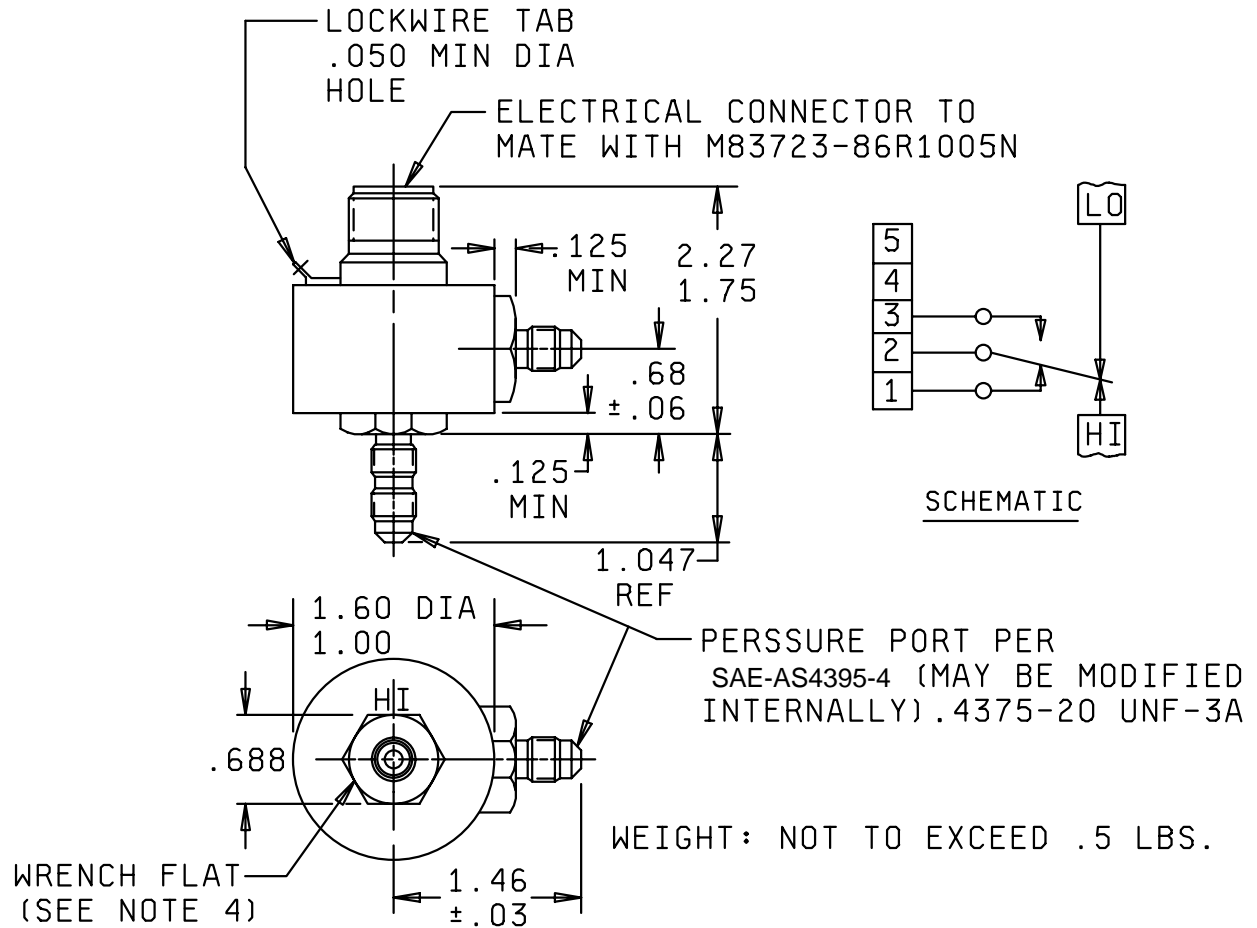
DETAIL SPECIFICATION SHEET

SWITCHES, PRESSURE, (DIFFERENTIAL) (TYPE III), 4 AMPERES

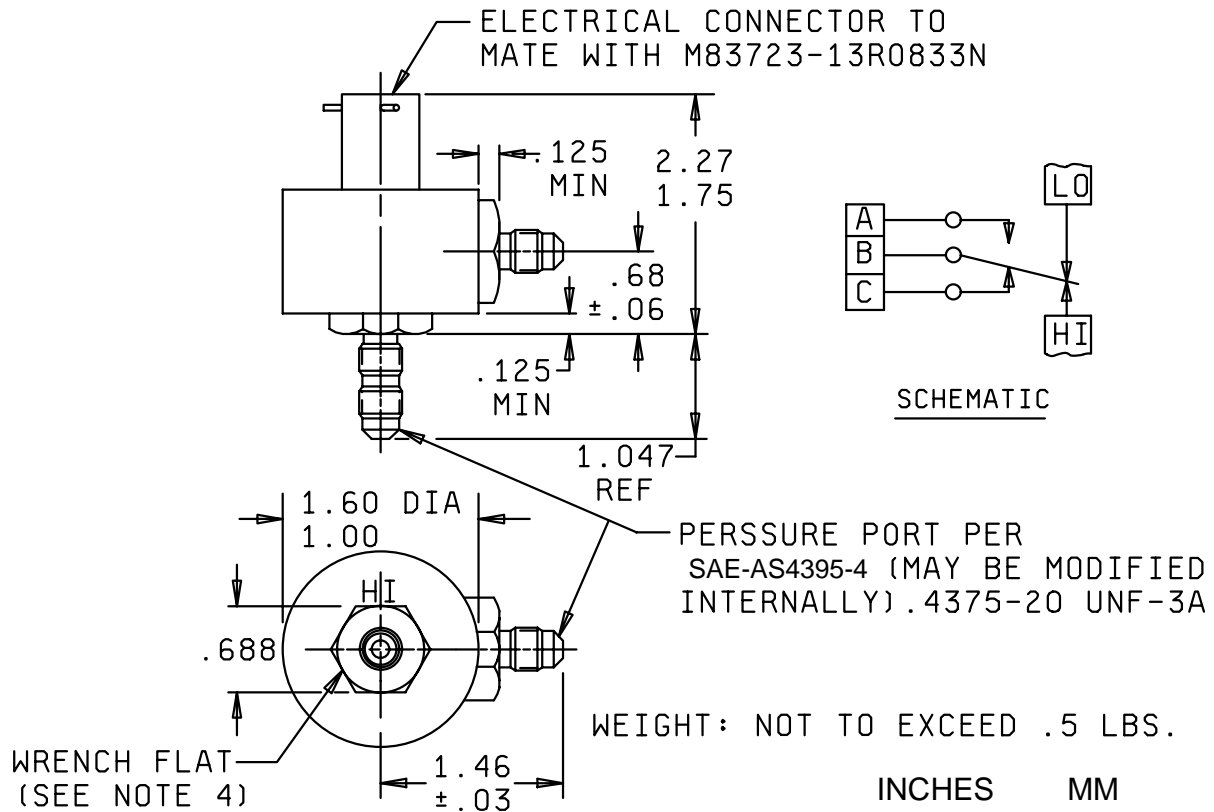
This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the pressure switches described herein shall consist of this document and the latest issue of Specification MIL-DTL-9395.





Configuration 2



INCHES	MM
.03	.76
.050	1.27
.06	1.52
.125	3.18
.4375	11.11
.68	17.27
.688	17.48
1.00	25.40
1.047	26.59
1.46	37.08
1.60	40.64
1.75	44.45
2.27	56.57

NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm).
3. Unless otherwise specified, tolerance is $\pm .005$ (.13 mm).
4. A minimum of two wrench flats is needed.
5. Ports permanently marked as shown.

Configuration 3

REQUIREMENTS:

Dimensions, weight and electrical schematic: See configurations.

Calibration: See tables I, II, III, and IV.

Proof pressure: 250 psig high over low and simultaneously.

System pressure: 125 psig high over low and simultaneously.

Burst pressure: 500 psig high over low and simultaneously.

Electrical ratings:

Operating voltage - 28 Vdc.

Current rating - 4 amperes resistive.

2 amperes inductive.

Seal:

High pressure chamber: Media proof. During this test the low pressure chamber shall be open to atmosphere. Subject switches to proof pressure for 2 minutes using a hydraulic fluid per MIL-H-5606 with chamber pressure continuously being monitored. Isolate the chamber at proof with the chamber disconnected from the pressure source. Under that condition, the pressure shall not drop more than 1 psig for the first 30 seconds to allow stabilization of test equipment; no pressure loss is allowed thereafter.

Low pressure chamber: Media proof. Test as above except low pressure port is connected to high pressure port.

Electrical chamber: See table I.

Electrical connector: See configurations.

Pressure port: See configurations.

Media: Dry air; nitrogen; fuel per MIL-DTL-5624; oil per MIL-PRF-7808; or hydraulic fluid per MIL-H-5606.

High temperature (operating and nonoperating): D (-65°F).

Altitude: D (100,000 feet).

Shock: C (100 G).

Vibration: S (test condition D, method 204 of MIL-STD-202).

Life mechanical: A (100,000 cycles).

Life electrical: C (50,000 cycles).

Acceleration: C (8 G).

Pulsation amplitude: A (0%).

Pulsation frequency: A (0 Hz).

Pressure surge: B (more than 1,000 psi/sec).

Dielectric withstanding voltage (at reduced barometric pressure): Applicable.

Connector torque: Applicable.

Flame test: Applicable.

Explosion: Applicable.

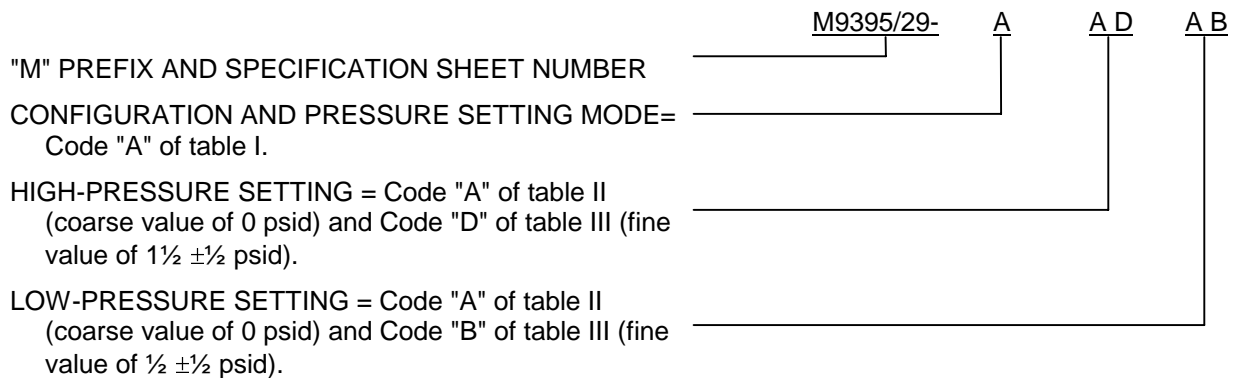
QUALIFICATION:

Single submission: Restricted to switch submitted.

Group submission: See table V.

PART NUMBER: Consists of "M" prefix followed by specification sheet number; a dash (-); and a five-letter code. The five-letter code identifies the configuration and pressure setting mode (code from table I); high-pressure setting (coarse value code from table II) followed by fine value with applicable tolerance (code from table III); and low-pressure setting (coarse value code from table II) followed by fine value with applicable tolerance (code from table III). The five-letter code used in the following example identifies a switch of configuration 1 which actuates on increasing pressure at $1\frac{1}{2} \pm \frac{1}{2}$ psid, and deactuates on decreasing pressure at $\frac{1}{2} \pm \frac{1}{2}$ psid.

EXAMPLE:



NOTE: Design limitations (actuation values and tolerances, deadband and deactuation values and tolerances) should be coordinated with manufacturer(s) listed on the QPL for this specification sheet before specifying a particular "M" number. The fact that operating characteristics can be coded does not necessarily mean that it can be manufactured or procured.

TABLE I. Codes for combinations of configurations and pressure setting modes.

	Configuration 1		Configuration 2		Configuration 3		Pressure setting mode	
	Electrical chamber		Electrical chamber		Electrical chamber		High	Low
	Hermetic	Unsealed	Hermetic	Unsealed	Hermetic	Unsealed	setting	setting
Code	A	D	G	K	N	R	At (or max) <u>1</u> /	At (or min) <u>1</u> /
Code	B	E	H	L	P	S	At (or max) <u>1</u> /	Differential <u>2</u> /
Code	C	F	J	M	Q	T	Differential <u>2</u> /	At (or min) <u>1</u> /

1/ Setting values are designated by codes from table II and III.

2/ Setting values are designated by codes from table IV.

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TABLE II. Codes for coarse settings.

Code	Coarse value (in psid)	Code	Coarse value (in psid)	Code	Coarse value (in psid)
A	0	L	30	W	80
B	2½	M	35	X	85
C	5	N	40	Y	90
D	7½	P	45	Z	95
E	10	Q	50	1	100
F	12½	R	55	2	105
G	15	S	60	3	110
H	17½	T	65	4	115
J	20	U	70	5	120
K	25	V	75	6	125

TABLE III. Codes for combinations of fine settings and tolerance values.

	Fine value (in psid) for settings below 20 psid					Tolerance
	0	½	1	1½	2	
Code	A	B	C	D	E	±½ psid
Code	F	G	H	J	K	±1 psid
Code	L	M	N	P	Q	±2 psid
Code	R	S	T	U	V	±3 psid
Code	W	X	Y	Z	1	±5 psid
Code	2	3	4	5	6	±8 psid
Code	7	8	9	0	I	Min or Max
	Fine value (in psid) for settings of 20 psid and above					Tolerance
	0	1	2	3	4	
Code	A	B	C	D	E	±1 psid 1/
Code	F	G	H	J	K	±2 psid 2/
Code	L	M	N	P	Q	±3 psid 3/
Code	R	S	T	U	V	±5 psid
Code	W	X	Y	Z	1	±8 psid
Code	2	3	4	5	6	±15 psid
Code	7	8	9	0	I	Min or Max

1/ Not applicable for pressure settings above 33 psid.

2/ Not applicable for pressure settings above 66 psid.

3/ Not applicable for pressure settings above 100 psid.

TABLE IV. Codes for differential settings.

Code	Differential value (in psid)	Code	Differential value (in psid)
A	0	T	11
B	$\frac{1}{2}$	U	12
C	1	V	13
D	$1\frac{1}{2}$	W	14
E	2	X	15
F	$2\frac{1}{2}$	Y	16
G	3	Z	18
H	$3\frac{1}{2}$	1	20
J	4	2	22
K	$4\frac{1}{2}$	3	24
L	5	4	26
M	$5\frac{1}{2}$	5	28
N	6	6	30
P	7	7	35
Q	8	8	40
R	9	9	45
S	10	0	50

TABLE V. Extent of qualification.

Part number	No. of samples required	Tests	Qualifies
M9395/29-ABAAC -GBAAC -A6R3S -N6R3S	2 each resistive 2 each resistive 2 each inductive 2 each inductive	Complete per qualification inspection of MIL-DTL-9395	ALL

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing Activity:
DLA - CC

(Project 5930-1730-09)

Review Activities:

Army - AT, AV
Navy - AS, MC, SH
Air Force - 19, 99